

Attorney Docket No. S-2500/CONT
MAIL STOP AMENDMENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:) Group Art Unit: 1712
)
KAWASE; HORIGUCHI; KAWAHITO) Examiner: M.G. Moore
)
Serial No. 10/713,102)
)
Filed: November 17, 2003)

For: **FLOW-AND-LEVELING AGENTS FOR WATERBORNE COATINGS**

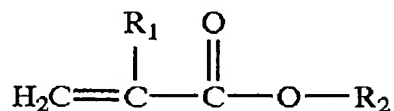
Appendix A

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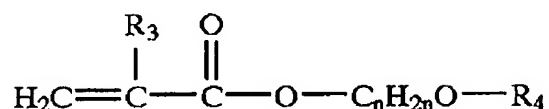
Claims 1-12 (Cancelled)

13. (Currently amended) A method for imparting flow-and-leveling properties to a water base coating comprising the step of: adding a trimethylsilyl group-containing copolymer obtained by copolymerizing 3-methacryloxypropyltrimethylsilane (A) and/or a reactive monomer (B) selected from the group consisting of 3-methacryloxypropyltris(trimethylsiloxy)silane and/or and vinyltris(trimethylsiloxy)silane (B) with a (meth)acrylic acid ester (C) represented by the formula:

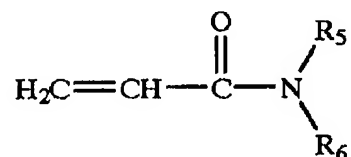


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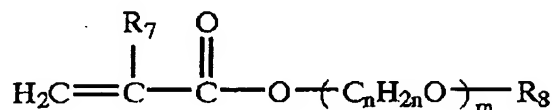
wherein R_1 represents a hydrogen atom or methyl, and R_2 represents an alkyl group having 1 to 12 carbon atoms, and/or a (meth)acrylic acid ester (D) represented by the formula:



wherein R_3 represents a hydrogen atom or methyl; R_4 represents an alkyl group having 1 to 18 carbon atoms; and n represents an integer of 2, 3 or 4, and acrylamide (E) represented by the formula:



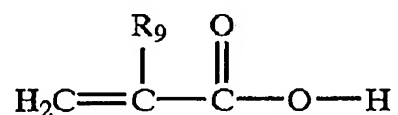
wherein R_5 and R_6 each represent a hydrogen atom or an alkyl group having 1 to 8 carbon atoms, and/or a (meth)acrylic acid ester (F) represented by the formula:



wherein R_7 represents a hydrogen atom or methyl; R_8 represents a hydrogen atom or an alkyl group having 1 to 18 carbon atoms; m

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represents an integer of 2 to 100, and n represents an integer of 2, 3 or 4; and $-(C_nH_{2n}O)_m-$ means that 2 to 100 units of only one kind of a glycol unit out of three kinds of the glycol units in which n is 2, 3 and 4 are present and that total 2 to 100 units of two or three kinds of the glycol units out of the three kinds of the above glycol units are present, and/or a (meth)acrylic acid (G) represented by the formula:



wherein R_9 represents a hydrogen atom or methyl, wherein the above trimethylsilyl group-containing copolymer contains a trimethylsilyl group originating in the monomer (A) and/or the monomer (B) in a proportion of 2 to 64% by weight, a copolymerization unit originating in the (meth)acrylic acid ester (C) and/or the (meth)acrylic acid ester (D) in a proportion of 2% by weight or more, a copolymerization unit originating in the acrylamide (E) and/or the (meth)acrylic acid ester (F) and/or the (meth)acrylic acid (G) in a proportion of 5% by weight or more, and it has a number average molecular weight of 500 to 30000, to the water base coating.

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14. (Canceled)

15. (Previously presented) A method for imparting flow-and-leveling properties to a water base coating comprising the step of: adding a trimethylsilyl group-containing copolymer obtained by copolymerizing the monomer (A) and/or the monomer (B) described in claim (13), the (meth)acrylic acid ester (C) and/or the (meth)acrylic acid ester (D) described in claim (13) and the acrylamide (E) and/or the (meth)acrylic acid ester (F) and/or the (meth)acrylic acid (G) described in claim (13) with a reactive monomer (H) capable of being copolymerized with them, wherein the above copolymer contains a trimethylsilyl group originating in the monomer (A) and/or the monomer (B) in a proportion of 2 to 64% by weight, a copolymerization unit originating in the (meth)acrylic acid ester (C) and/or the (meth)acrylic acid ester (D) in a proportion of 2% by weight or more, a copolymerization unit originating in the acrylamide (E) and/or the (meth)acrylic acid ester (F) and/or the (meth)acrylic acid (G) in a proportion of 5% by weight or more, a copolymerization unit originating in the monomer (H) in a proportion of not exceeding 50% by weight, and it has a number

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average molecular weight of 500 to 30000, to the water base coating.

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 ~~to 16~~, wherein the (meth)acrylic acid ester (C) is selected from the group consisting of methyl(meth)acrylate, ethyl(meth)acrylate, normal propyl(meth)acrylate, isopropyl(meth)acrylate, normal butyl(meth)acrylate, isobutyl(meth)acrylate, tertiary butyl(meth)acrylate, normal octyl(meth)acrylate, 2-ethylhexyl(meth)acrylate, isononyl(meth)acrylate and lauryl(meth)acrylate.

20. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 ~~to 16~~, wherein the (meth)acrylic acid ester (D) is selected from the group consisting of 2-methoxyethyl

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(meth)acrylate, 2-ethoxyethyl(meth)acrylate, 2-butoxyethyl(meth)acrylate, 2-octoxyethyl(meth)acrylate, 2-lauroxyethyl(meth)acrylate, 2-stearoxyethyl(meth)acrylate, 3-methoxybutyl(meth)acrylate and 4-methoxybutyl(meth)acrylate.

21. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 ~~to 16~~, wherein the acrylamide (E) is selected from the group consisting of acrylamide, N-methylacrylamide, N-ethylacrylamide, N-isopropylacrylamide, N-normal butylacrylamide, N-tertiary butylacrylamide, N-2-ethylhexylacrylamide, N,N-dimethylacrylamide, N,N-diethylacrylamide and diacetoneacrylamide.

22. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 ~~to 16~~, wherein the (meth)acrylic acid ester (F) is selected from the group consisting of ethylcarbitol (meth)acrylate, methoxypolyethylene glycol(meth)acrylate, methoxypolypropylene glycol(meth)acrylate, methoxypoly(ethylene-propylene) glycol(meth)acrylate, methoxypoly(ethylene-tetramethylene) glycol(meth)acrylate, butoxypoly(ethylene-propylene) glycol(meth)acrylate, octoxypoly(ethylene-propylene)

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glycol(meth)acrylate, lauroxypolyethylene glycol(meth)acrylate and lauroxypoly(ethylene-propylene) glycol(meth)acrylate.

23. (Canceled)

24. (Currently amended) The method as described in claim ~~15~~ 13 or ~~16~~ 15, wherein the monomer (H) is selected from the group consisting of tridecyl (meth)acrylate, myristyl(meth)acrylate, hexadecyl (meth)acrylate, stearyl(meth)acrylate, behenyl(meth)acrylate, cyclohexyl(meth)acrylate, isobonyl (meth)acrylate, nonylphenoxypolyethylene glycol(meth)acrylate; styrene, α -methylstyrene, chlorostyrene, vinyltoluene; vinyl acetate, vinyl propionate, diallyl phthalate; ethyl vinyl ether; normal propyl vinyl ether, isopropyl vinyl ether, normal butyl vinyl ether, isobutyl vinyl ether, tertiary butyl vinyl ether, normal octyl vinyl ether, 2-ethylhexyl vinyl ether, methyl vinyl ether, cyclohexyl vinyl ether; vinyl chloride; vinylidene chloride; chloroprene; propylene; butadiene; isoprene; and fluoroolefinmaleimide.